

ABSTRACT

A composite absorbent structure and method are disclosed including providing a first wicking layer having preferred liquid transport properties in a preferred contact with a second absorbent retention layer. The composite absorbent structure of the present invention provides preferred liquid transport and liquid retention properties. The composite absorbent structure has a first wicking layer in a preferred contact with the second retention layer by a novel intimate contact means effective to achieve a Contact Intimacy Ratio providing the preferred liquid transport and liquid retention functions when the first wicking layer and the second absorbent retention layer are combined together in accordance with the present invention. In one aspect, a bonding agent is used in the present invention in combination with the first wicking layer of wettable lamallae or foams and a second retention layer of a hydrogel-forming polymeric material, preferably superabsorbent, to form a composite absorbent structure having the preferred Contact Intimacy Ratio and providing the preferred liquid transport function and the preferred liquid retention function. In one aspect, the bonding agent used in the present invention in combination with the first wicking layer and the second retention layer includes polyhydroxyalkanoate. In one aspect, the bonding agent includes poly(lactic)acid. In one aspect, the absorbent structure has a wet geometric mean breaking length of at least 5 meters and a dry geometric mean breaking length of at least 50 meters, and the first wicking layer exhibits a vertical liquid flux rate at a height of about 5 centimeters of at least about 0.4 grams of liquid per minute, such that the first wicking layer exhibits a wicking time of less than about 3.5 minutes and said first wicking layer has a basis weight greater than 100 grams per square meter and less than 300 grams per square meter.